

**Notice of Allowability**

Application No.

09/919,743

Examiner

Wei Y. Zhen

Applicant(s)

SOKOLOV ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 4/13/2005.
2. ☒ The allowed claim(s) is/are 10-14, 18-20, 25-27 and 29-33.
3. ☒ The drawings filed on 31 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 11/12/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

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1. This office action is in response to the response filed on 4/13/2005.
2. Claims 10-14, 18-20, 25-27, 29-33 are allowed.

### **EXAMINER'S AMENDMENT**

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with R. Mahboubian on 5/23/2005. The amendment was made in order to overcome a potential 35 U.S.C. 101 rejection.

The application has been amended as follows:

#### **In the claim:**

Claim 18, lines 1-2, change "A computer readable medium including at least computer program code for" to – A computer readable medium stored in a computer system including at least computer program code executed for --.

### ***Reasons for allowance***

4. The following is an examiner's statement of reasons for allowance: the cited prior arts taken alone or in combination fail to disclose, in combination with other claimed limitations, a first reference to an internal class representation of a class associated with a Java object, and a second reference to instance fields associated with said Java object, sequentially reading by said

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virtual machine at runtime said cluster of Java object representations, determining by said virtual machine at runtime during garbage collection whether Java objects or Java classes are to be identified, using said second references of said cluster during garbage collection to mark memory addresses that correspond to Java objects when said determining determines that Java objects are to be identified, thereby allowing Java objects to be identified at run time by a sequential read of said cluster, and using one or more of said references of said cluster during garbage collection to mark memory addresses that correspond to Java classes when said determining determines that Java classes are to be identified, thereby allowing Java classes to be identified at run time during garbage collection by a sequential read of said cluster, wherein said first reference is a direct reference to said internal class representation of said Java object as recited in independent **claim 10**; the cited prior arts taken alone or in combination fail to disclose, in combination with other claimed limitations, a first reference to an internal class representation of a class associated with a Java object and a second reference to instance fields associated with said Java object: computer program code for sequentially reading by said virtual machine at runtime during garbage collection said cluster of Java object representations, computer program code for determining by said virtual machine at runtime during garbage collection whether Java objects or Java classes to be identified, computer program code for using said second references of said cluster during garbage collection to mark memory address that correspond to Java object when said determining determines that Java object are to-be identified thereby allowing Java objects to be identified at run time by a sequential read of said cluster: and computer program code for using one or more of said first reference of said cluster during garbage collection to mark memory addresses that correspond to Java classes when said determining determines that Java classes are

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to be identified. thereby allowing Java classes to be identified at run time during garbage collection by a sequential read of said cluster, wherein said first reference is a direct reference to said internal class representation of said Java object as recited in independent **claim 18**; the cited prior arts taken alone or in combination fail to disclose, in combination with other claimed limitations, a first reference to an internal class representation of a class associated with a Java object, and a second reference to instance fields associated with said Java object; sequentially reading by said virtual machine at runtime said cluster of Java object representation, determine by said virtual machine at runtime during garbage collection whether Java object or Java classes are to be identified; using said second references of said cluster during garbage collection to mark memory addresses that correspond to Java objects when said determining determines that Java objects are to be identified, thereby allowing Java object to be identified at run time by a sequential read of said cluster and use one or more of said first references of said cluster during garbage collection to mark memory addresses that correspond to Java classes when said determining determines that Java classes are to be identified, thereby allowing Java classes to be identified at run time during garbage collection by a sequential read of said cluster, wherein said first reference is a direct reference to said internal class representation of said Java object as recited in independent **claim 29**.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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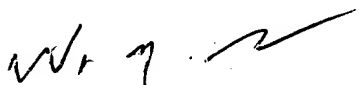
*Conclusion*

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wei Y. Zhen whose telephone number is (571) 272-3708. The examiner can normally be reached on Monday-Friday, 8 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wei Zhen  
5/24/2005

  
**WEI Y. ZHEN**  
**PRIMARY EXAMINER**